

편측성대마비에 대한 제1형 갑상성형술과 피열연골내전술의 동시수술 효과

최홍식 · 김광문 · 조정일 · 김세현 · 김홍윤

= Abstract =

Effects of Arytenoid Adduction and Type Thyroplasty Combined Surgery for Unilateral Vocal Cord Paralysis

Hong-Shik Choi, M.D., Kwang-Moon Kim, M.D., Jung-Il Cho, M.D.,
Sae-Hun Kim, M.D., Hong-Yoon Kim, M.D.

Department of Otorhinolaryngology, The Institute of Logopedics and Phoniatrics,
Yonsei University College of Medicine, Seoul, Korea

Type thyroplasty, we know, could not overcome the large posterior glottal chink and arytenoid adduction have been proved to be ineffective in the cases of unilateral vocal cord paralysis with vocal cord atrophy or bowing deformity. So we performed type thyroplasty in conjunction with arytenoid adduction and tried to compare the postoperative results with that of arytenoid adduction. We experienced 8 cases of arytenoid adductions and 6 cases of combined operations in the cases of unilateral vocal cord paralysis. All 14 patients had large posterior glottal chink. In order to compare the postoperative voice results of two groups as objective as possible, we performed preoperative and postoperative videoimage analysis(chink size, interarytenoid distance) and computer-assisted voice analysis(MPT, Jitter, Shimmer, S/N ratio). As a results, the postoperative voice outcome is superior with the combined operation than with the arytenoid adduction only in the cases of unilateral vocal cord paralysis with large glottal chink. (**Korean J Otolaryngol 40 : 4, 1997**)

KEY WORDS : Arytenoid adduction · Type thyroplasty · Vocal cord paralysis.

서 론

가

1

1970 Isshiki ⁴⁾

40

1

가

: 1996 8 8

: 1997 2 13

⁵⁾

: 40 4 1997

1970 Isshiki

가

5 , 가 3

5). 1 35 .

2. 음성검사 방법

2

(MPT)

(EEG)

1)9).

1

AK GD 3305 Microphone Onkyo TA - W88 Tape Machine ,

Rigid telaryngoscope(Storz, Germany)

Rhino - larynx Stroboscope(B & K Type 4919)

Kay

Laryngograph

Analog si -

gnal A/D board(DT2821)

CS - peech Version 3.1 .

DT2853 Image Grabbing Board

Image Pro

가

3. 음성기능의 판정

, Jitter, Shimmer, (Signal to No -
ise ratio)

재료 및 방법

1. 대상

1

1994 3 1995 6

6

1

4. 수술방법

1) 제1형 갑상성형술

Nettervielle

8).

7 8cm

가 5 , 3 3 . 가 . (Subplatysmal skin flap)
1992 (Strap muscle)

1 1994 6

8

1)

Silastic block (Window) 12).
 가 5 6mm, 가 가 10 13mm
 가 2 3mm
 가 4 5mm
 가 6 7mm, 1
 가 Silastic Block
 가 Suture material
 가 (Fig. 13).
 Knife 가 가
 Oscillating saw Drill
 Microelevator

결 과

Silastic block
 Silastic block Netervielle⁸⁾
 (Fig. 11). Silastic block
 Block
 1. 최장발성지속시간(Maximal phonation time :
 MPT)
 (p=0.016)
 1 (p=0.003)
 (Fig. 1, 2).
 2. Jitter
 (p=0.692)
 Jitter
 Isshiki
 5)
 Small skin hook

Table 1. The preoperative and postoperative mean and SD values of each acoustic parameters

Acoustic parameters		A.A [†] only	A.A [†]	
			Type	T.P [‡]
MPT	Preop.	6.01 ± 1.29	4.15 ± 2.05	
	Postop.	14.57 ± 7.71	11.43 ± 3.54	
Jitter	Preop.	0.891 ± 1.126	0.423 ± 0.337	
	Postop.	1.145 ± 1.806	0.086 ± 0.049	
Shimmer	Preop.	14.50 ± 12.34	30.75 ± 16.07	
	Postop.	37.47 ± 81.54	15.76 ± 10.02	
SNR	Preop.	10.65 ± 6.02	5.48 ± 3.73	
	Postop.	16.11 ± 7.03	10.32 ± 5.72	

[†] Arytenoid adduction, [‡] Thyroplasty

Unit : MPT(sec), Jitter(msec), Shimmer(%), SNR(dB)

(Fig.

1cm

가

3-0 Nylon suture

($p=0.061$) (Fig. 3, 4).

($p=0.477$)

($p=0.023$)

3. Shimmer

(Fig. 5, 6).

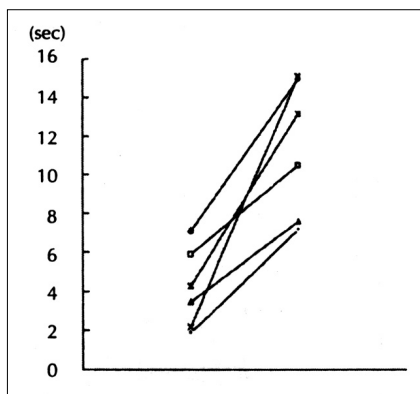


Fig. 1. Changes of MPT in the group of combined operation.

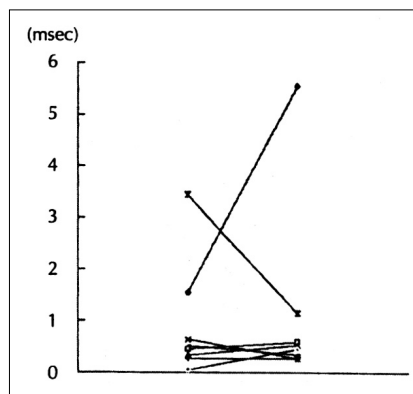


Fig. 4. Changes of Jitter in the group of arytenoid adduction.

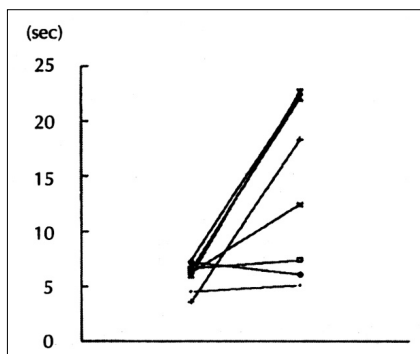


Fig. 2. Changes of MPT in the group of arytenoid adduction.

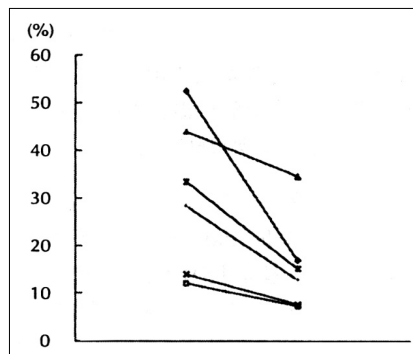


Fig. 5. Changes of Shimmer in the group of combined operation.

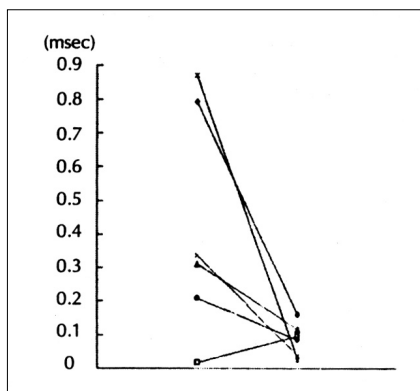


Fig. 3. Changes of Jitter in the group of combined operation.

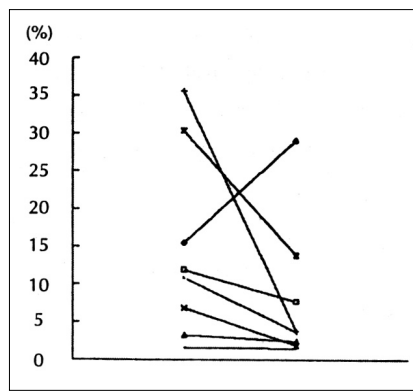


Fig. 6. Changes of Shimmer in the group of arytenoid adduction.

4. SNR

(p=0.039)
(p=0.018)

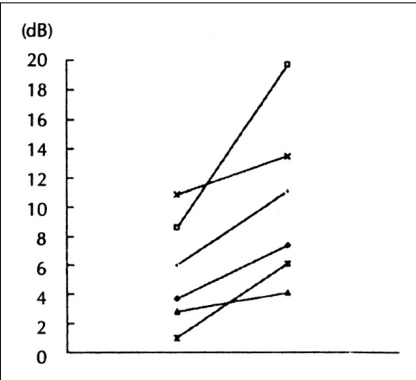


Fig. 7. Changes of S/N Ratio in the group of combined operation.

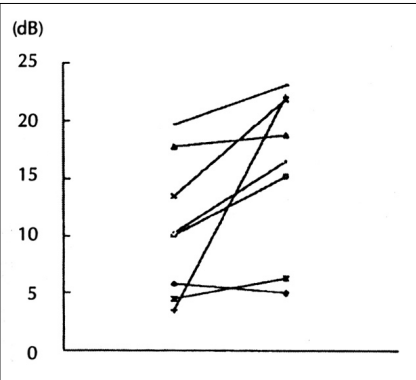


Fig. 8. Changes of S/N Ratio in the group of arytenoid adduction.

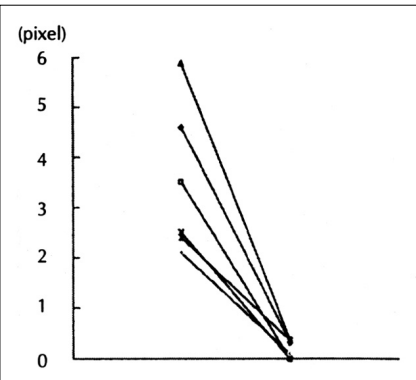


Fig. 9. Changes of chink size in the group of combined operation.

(Fig. 7, 8).

5.

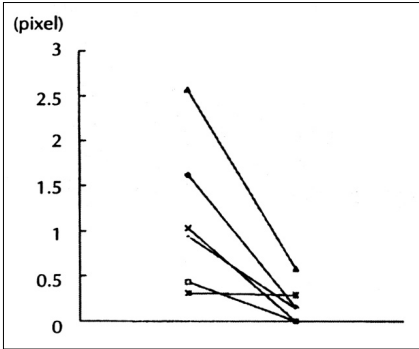


Fig. 10. Changes of interarytenoid distance in the group of combined operation.

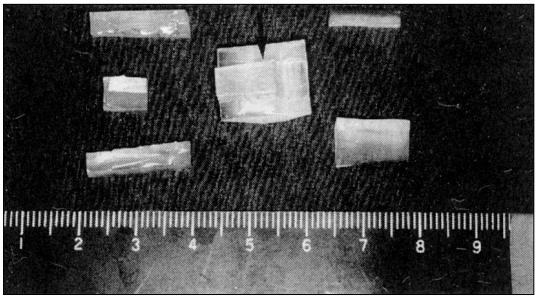


Fig. 11. The shape of silastic block which will be inserted into the window for vocal cord medialization (arrow).

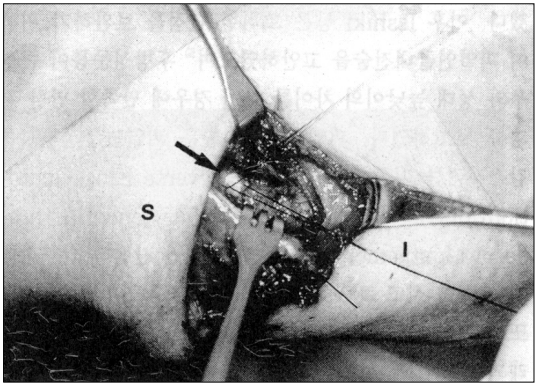


Fig. 12. The muscular process of left arytenoid cartilage (thick arrow). The process was sutured with 3-0 Nylon suture material. S : superior ; I : inferior Thin arrow : Left thyroid inferior cornu.

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(Fig. 9, 10).

가

고 찰

가

Isshiki

1

가

1)3)8)

1

, Teflon

1

1

Is -

shiki

가

1

Netterviele

가

4)

1

가

Isshiki

(window)

가

8)

5mm,

7mm

5)

가

가

, Reverse King Operation(Morrison 1948)⁷⁾

Crycoarytenoid Arthrodesis(Montgomery 1966)⁶⁾

가

(Cartilage island)

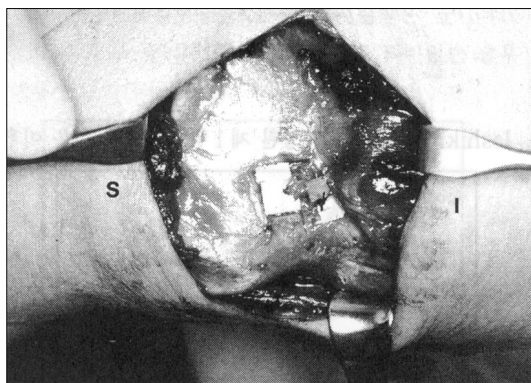


Fig. 13. The silastic block was inserted into the window of left thyroid cartilage and the Nylon suture material for arytenoid adduction was ligated below the window. S : superior ; I : inferior.

가

(Laryngeal Vent -

ricle)

Ventricular Prolapse

8)

Isshiki

가

가

가

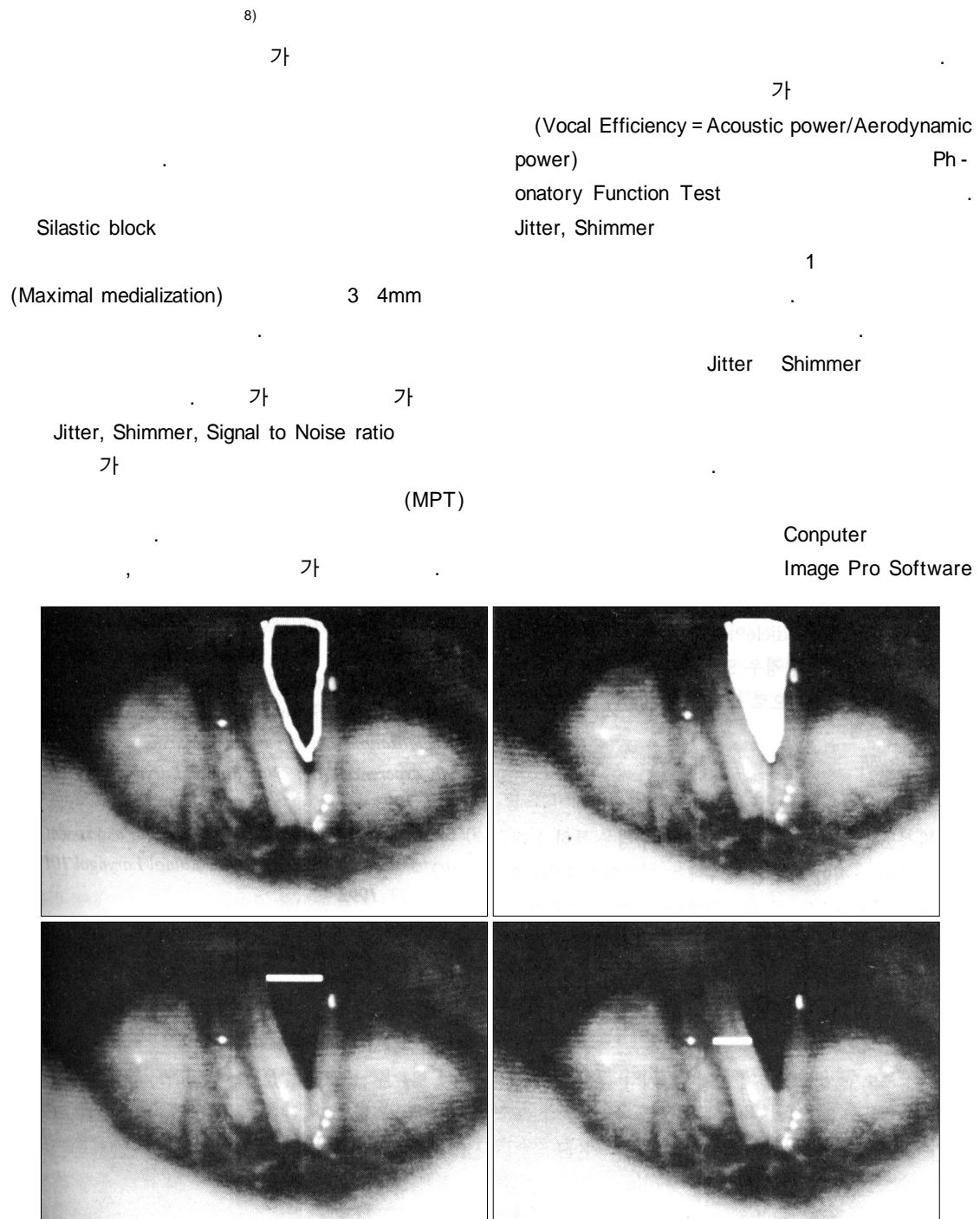


Fig. 14. The measurement of chink size and interarytenoid distance using computer assisted imaging technique.

(Fig. 14).

결 론

가
가
Pixel
가
Silastic Block
Steroid
Silastic Block
1
Ansa -
hypoglossal - cervicalis Reinnervation technique²⁾
Nerve - muscle - pedicle¹⁰⁾

References

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